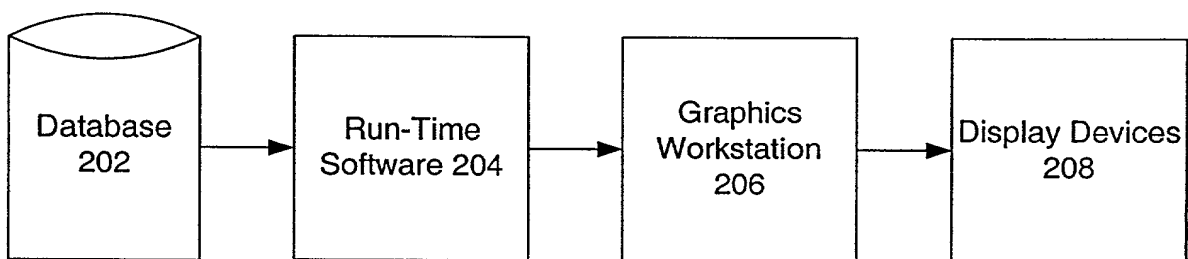
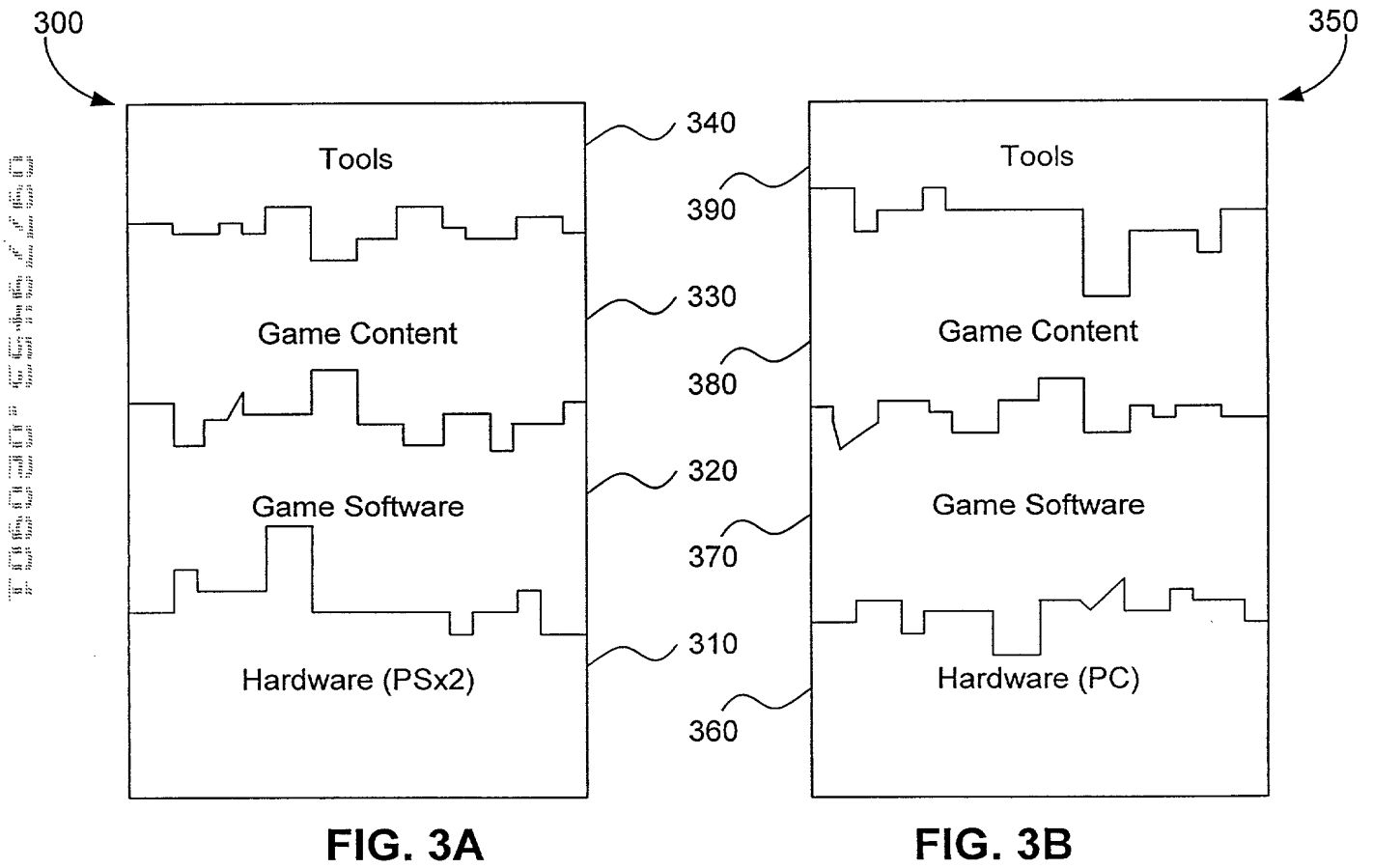
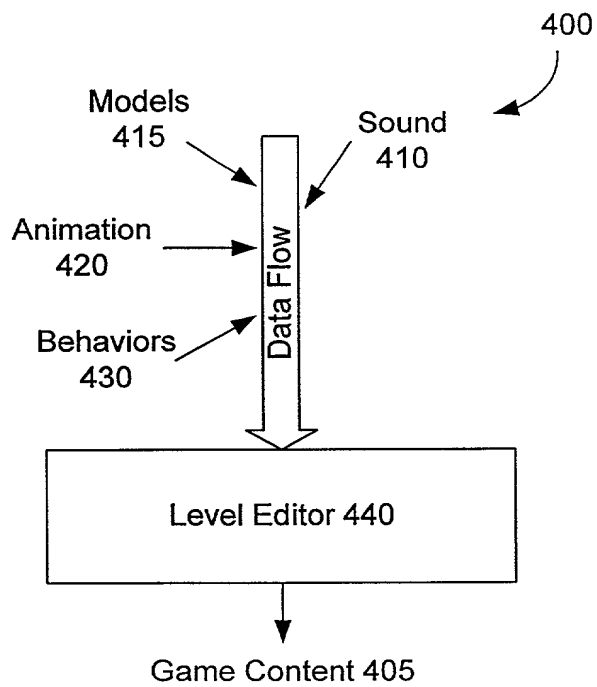


**FIG. 1**



**FIG. 2**





**FIG. 4**

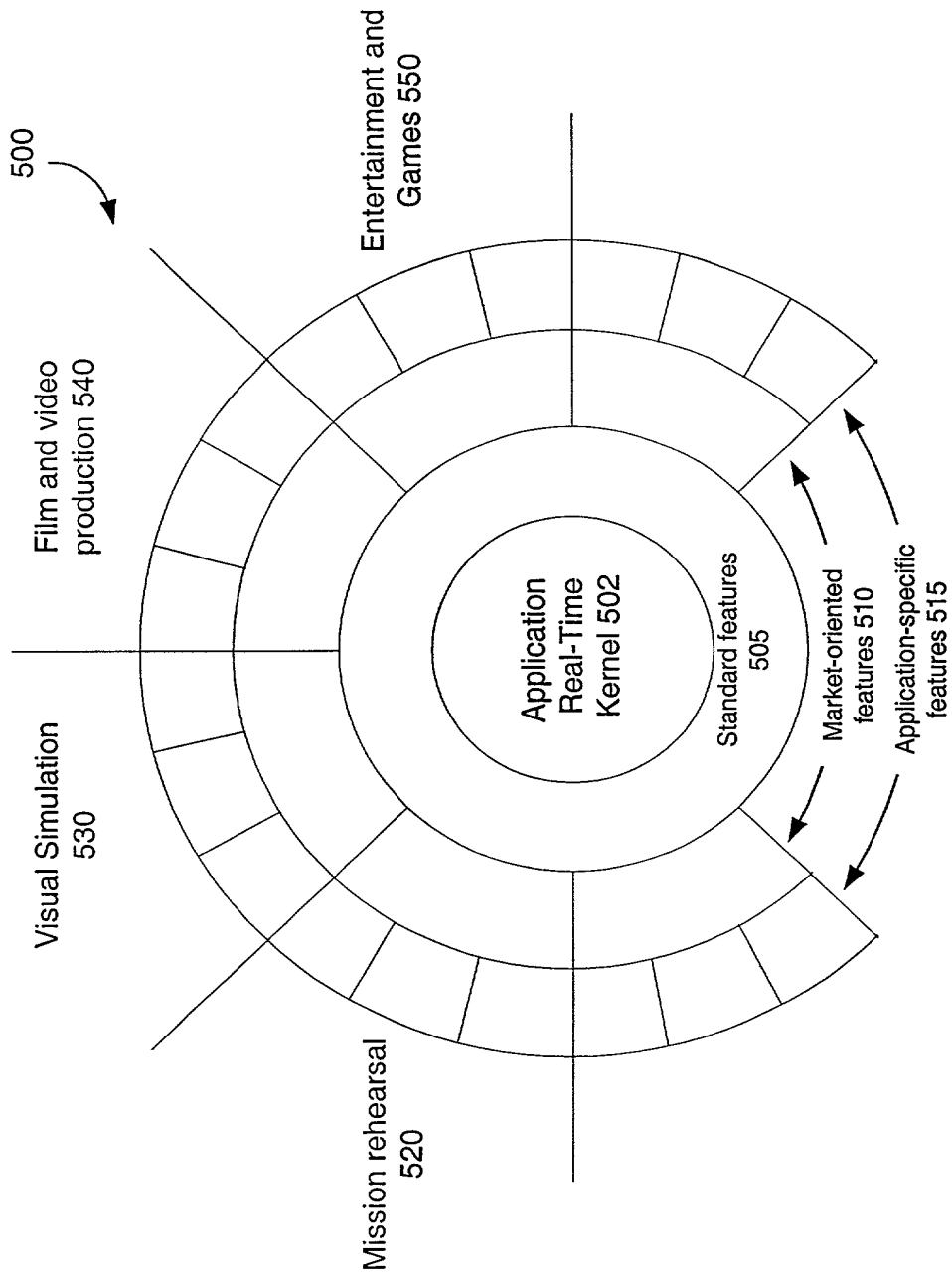


FIG. 5

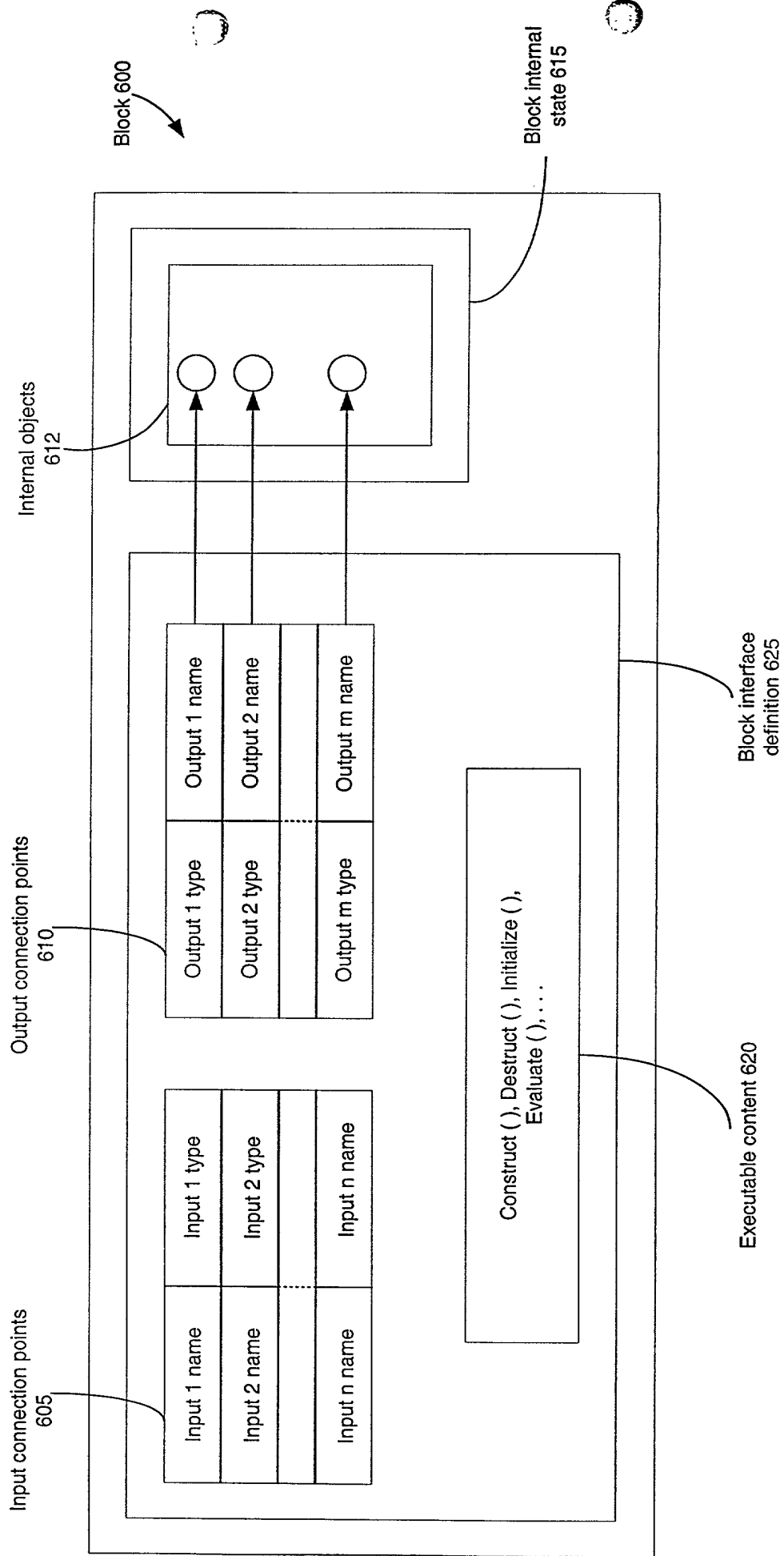
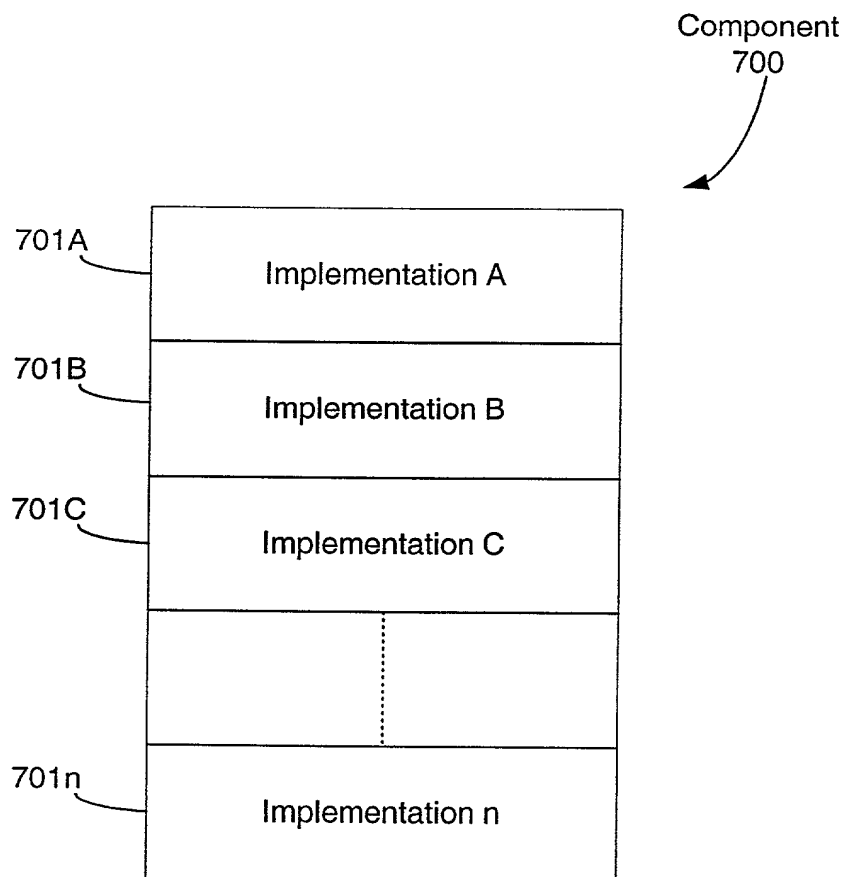


FIG. 6



**FIG. 7**

701A

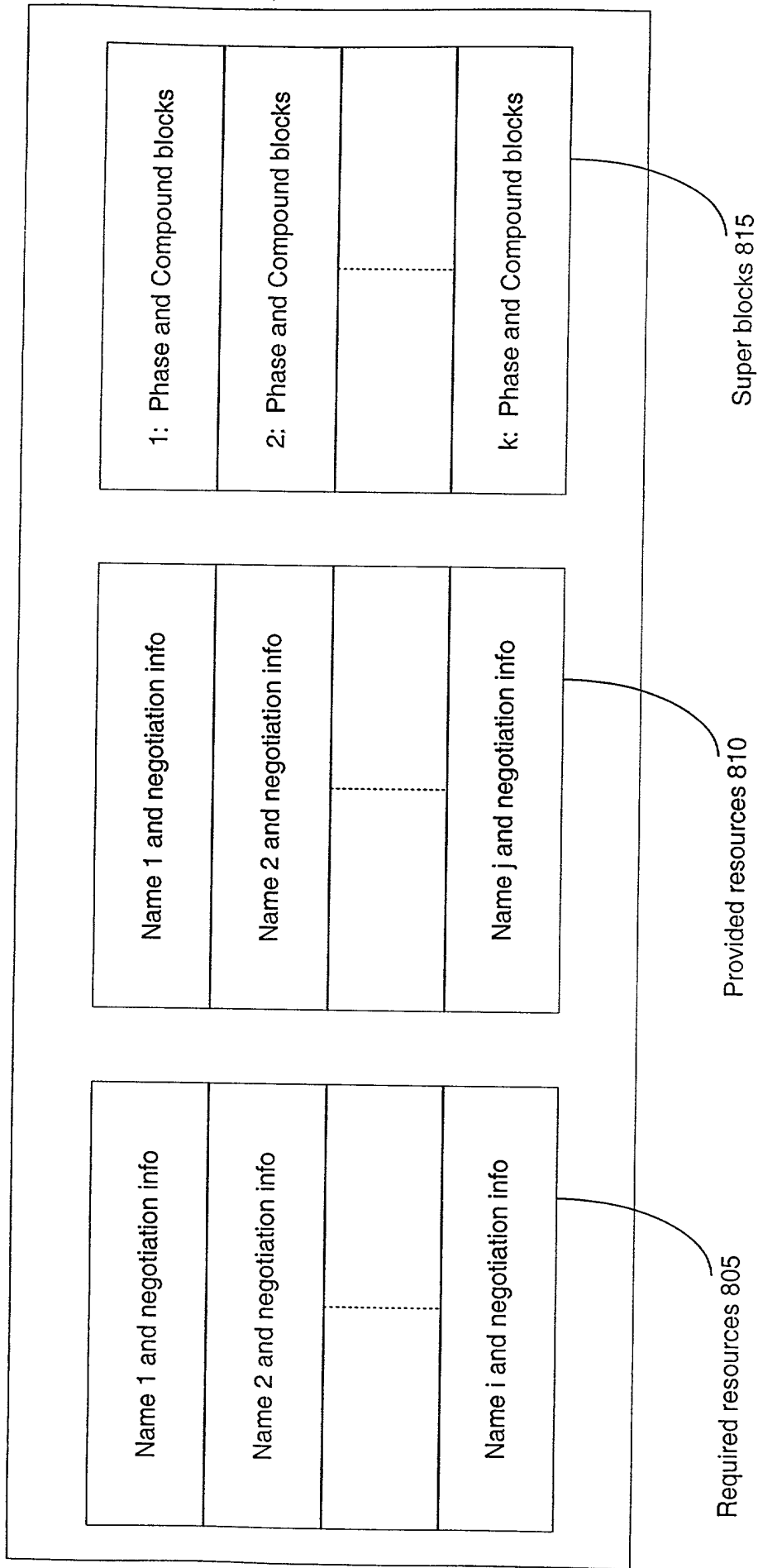


FIG. 8

FIG. 9 is a block diagram of a system 900 for processing a set of data. The system 900 includes an initialization phase 905, a database paging phase 910, a geometry morphing phase 915, a culling phase 920, and a drawing phase 925. The initialization phase 905 is connected to the database paging phase 910, which is connected to the geometry morphing phase 915, which is connected to the culling phase 920, which is connected to the drawing phase 925. Each phase is connected to a set of blocks (930) via a bus (902). The blocks (930) are connected to the drawing phase 925 via a bus (900).

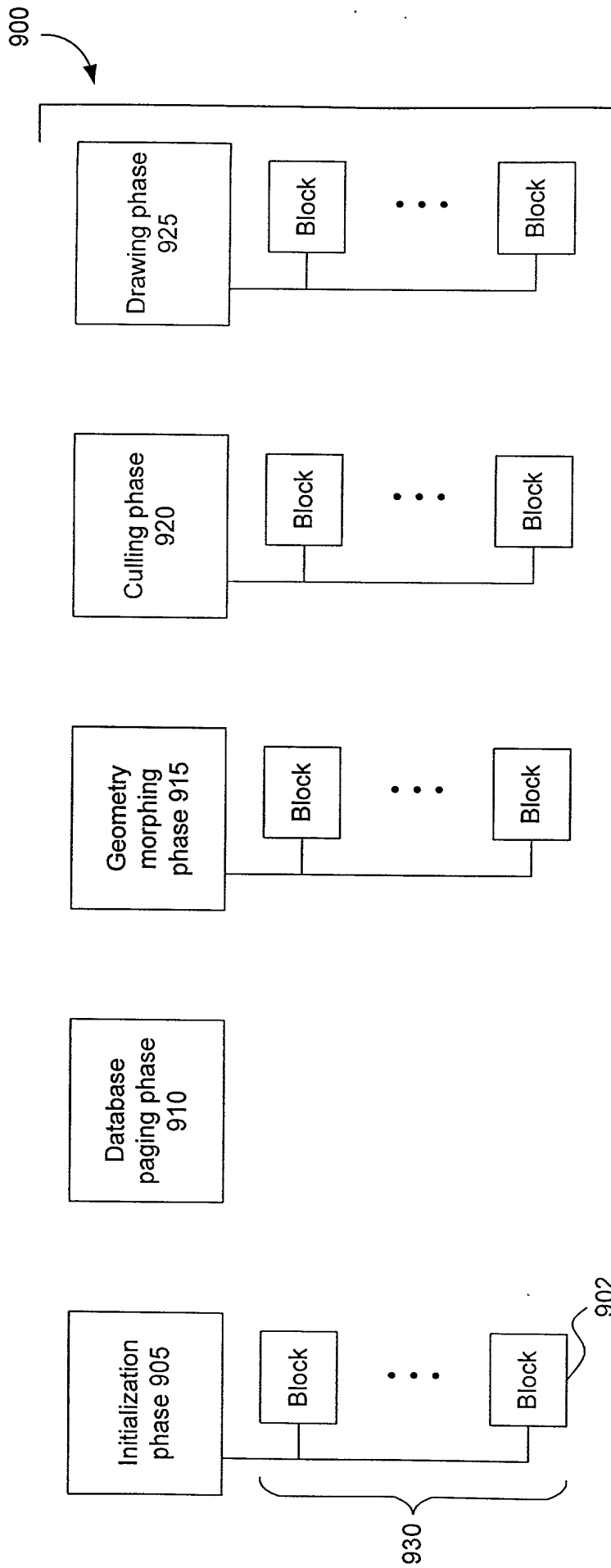


FIG. 9



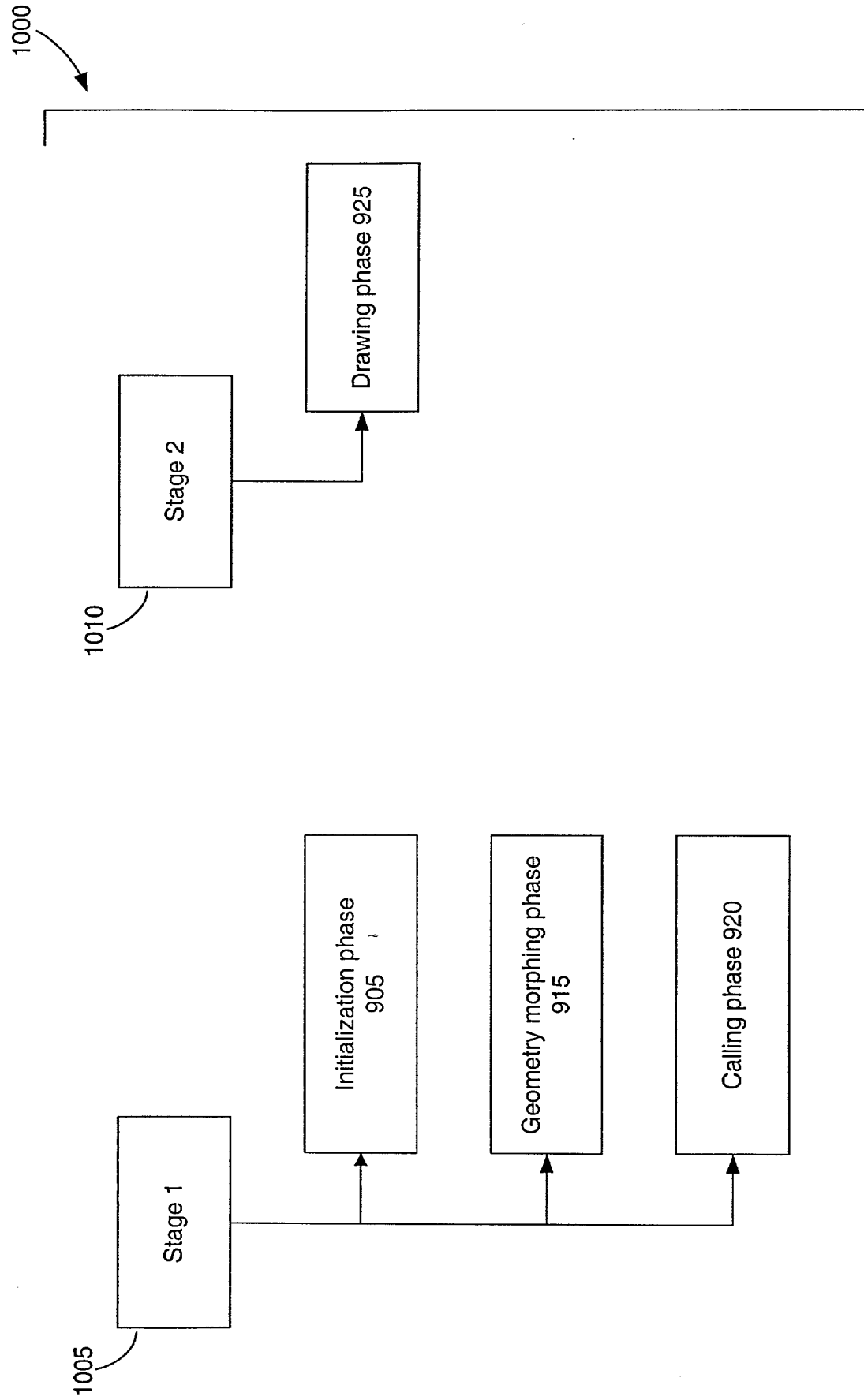
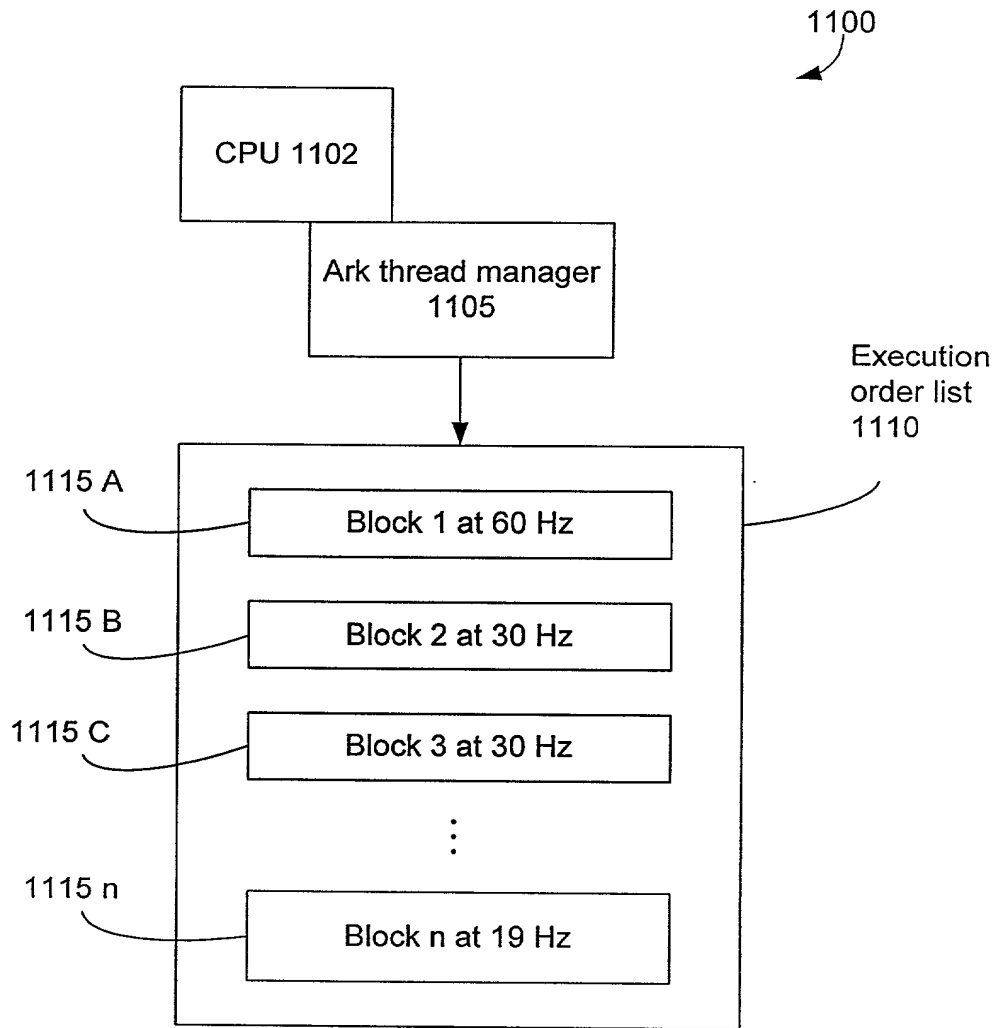


FIG. 10



**FIG. 11**

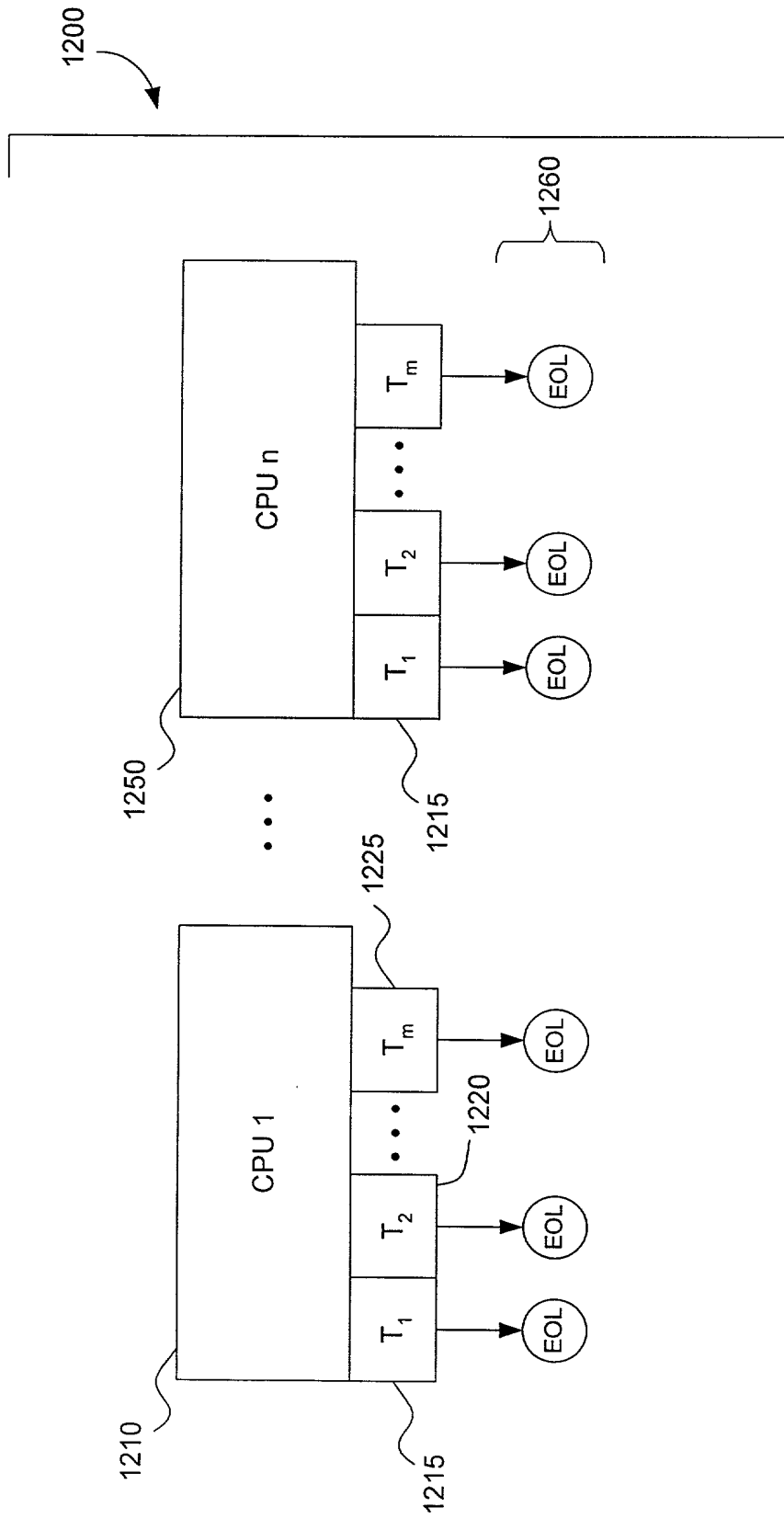
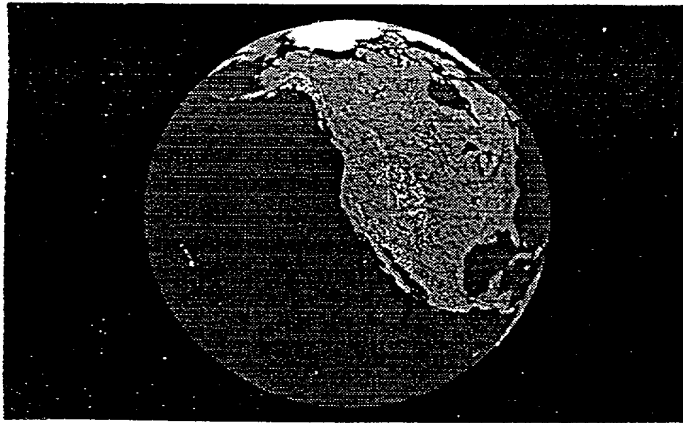


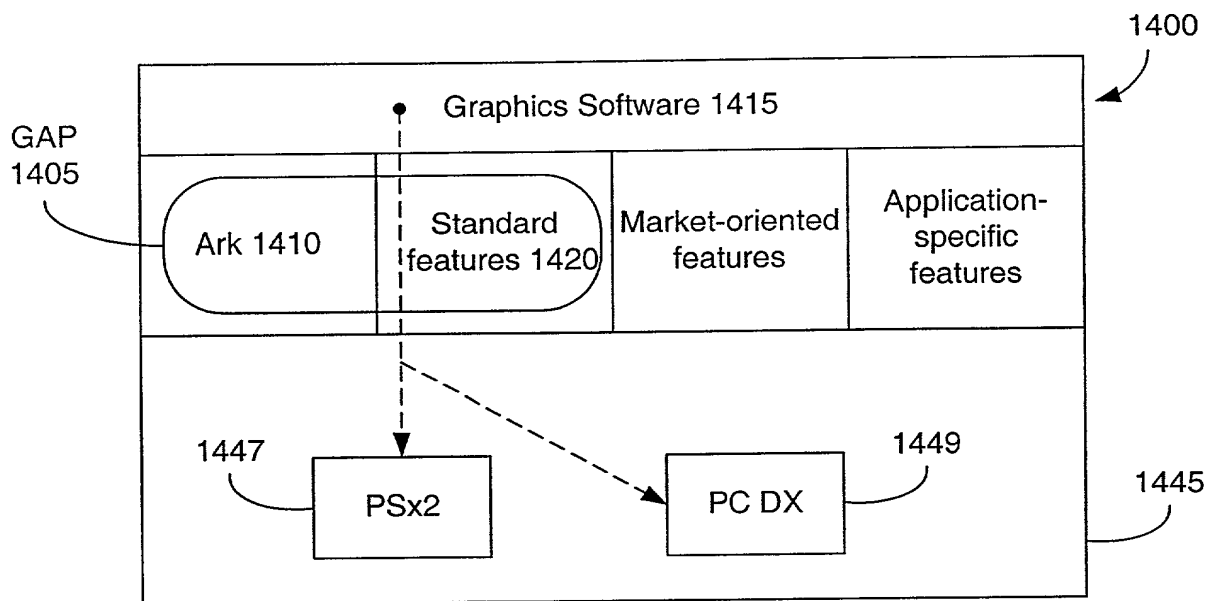
FIG. 12



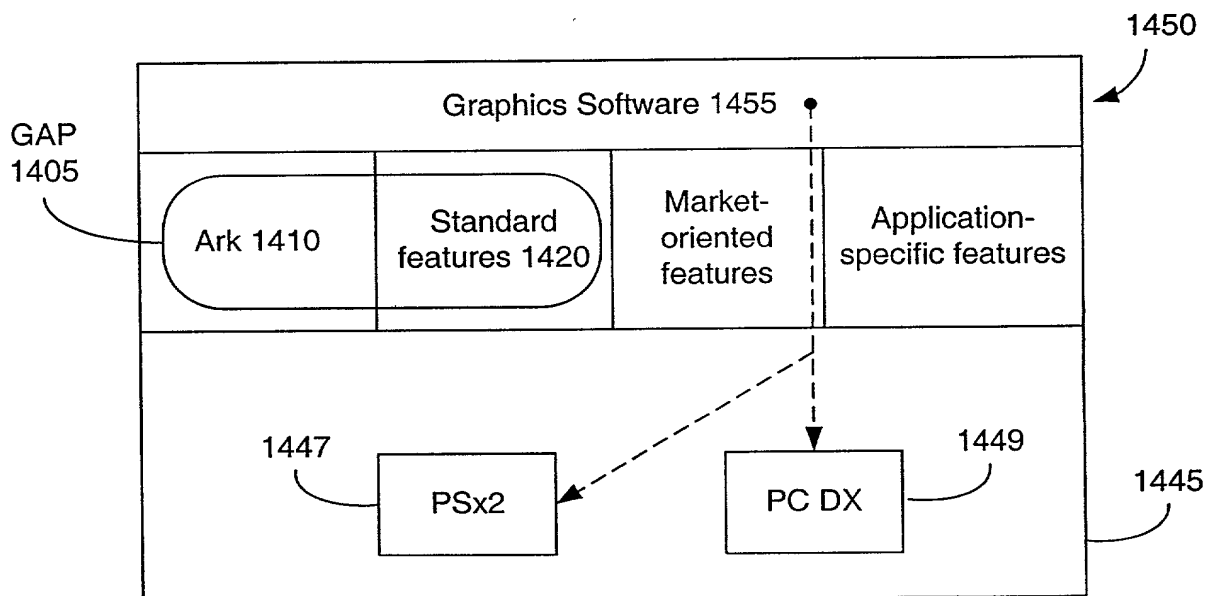
1300



FIG. 13



**FIG. 14A**



**FIG. 14B**

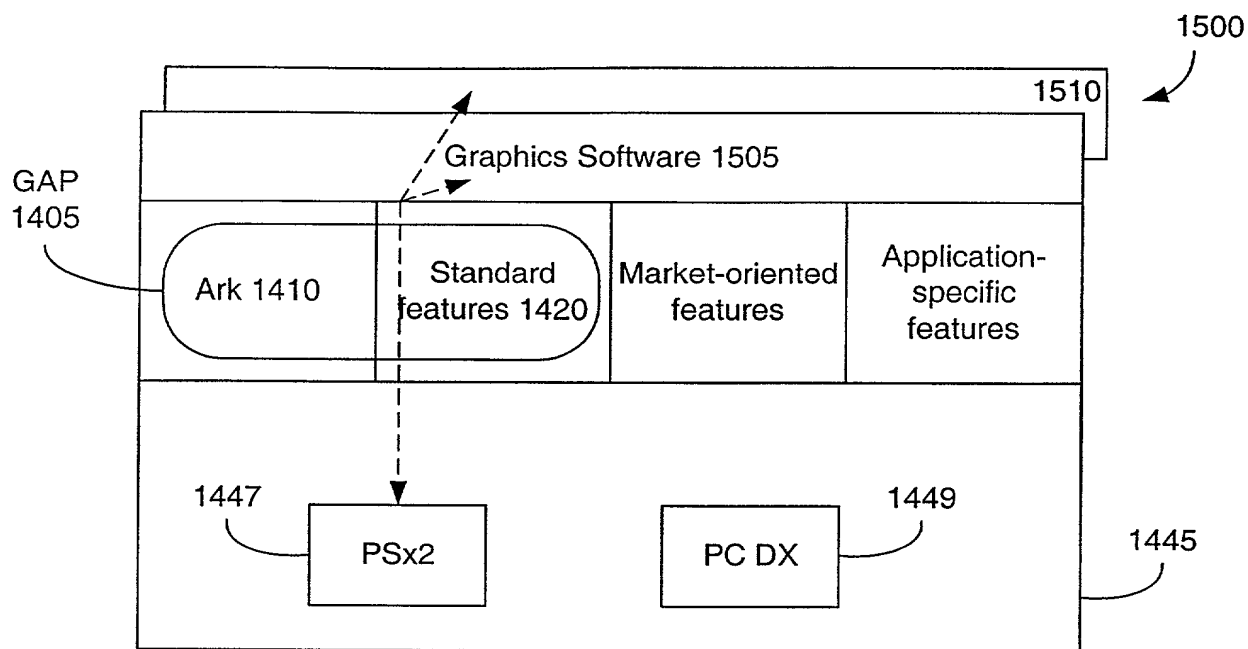


FIG. 15A

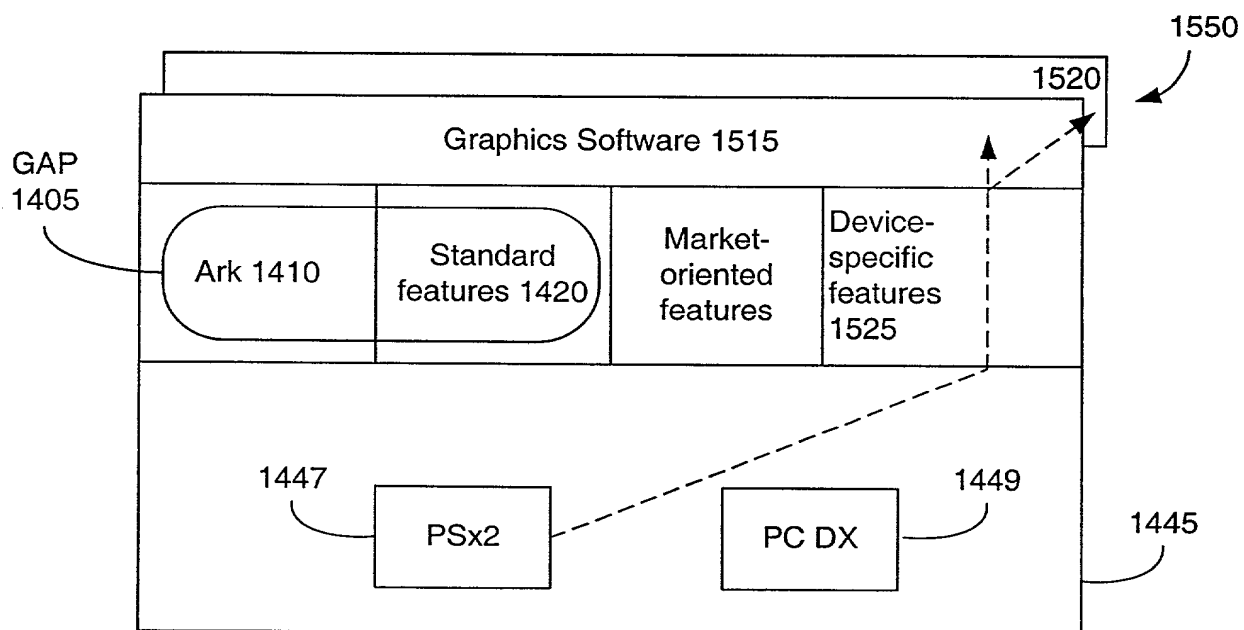
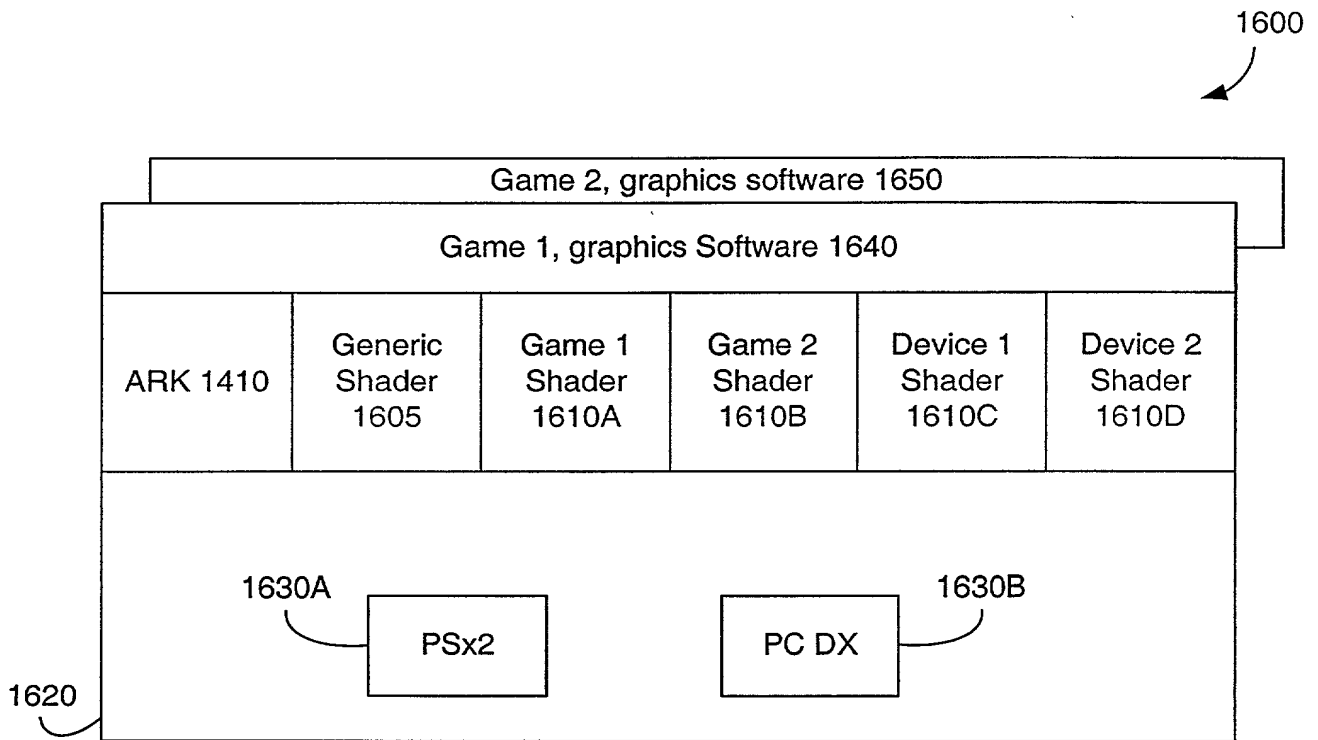


FIG. 15B



**FIG. 16**

1700

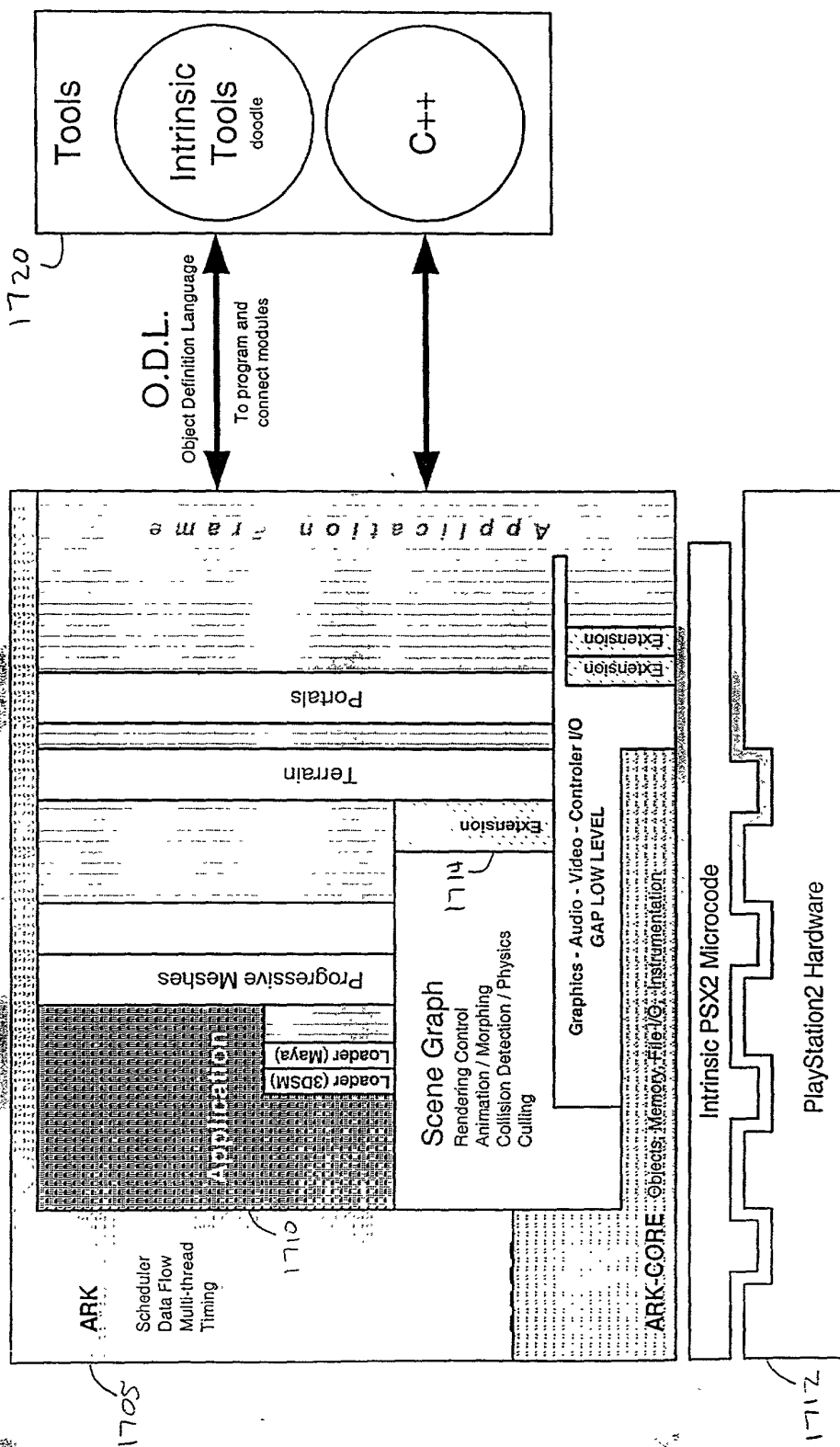


FIG. 17A





FIG. 18 is a block diagram of a system 1800 for rendering a scene. The system 1800 includes a user block 1801, a compute block 1802, a culling block 1803, a state sorting and state compiling block 1804, a draw block 1805, a texture management block 1806, and a hardware block 1807. The user block 1801 is connected to the compute block 1802. The compute block 1802 is connected to the culling block 1803. The culling block 1803 is connected to the state sorting and state compiling block 1804. The state sorting and state compiling block 1804 is connected to the draw block 1805. The draw block 1805 is connected to the hardware block 1807. The texture management block 1806 is connected to the compute block 1802 and the draw block 1805. The hardware block 1807 is connected to the draw block 1805. The system 1800 also includes a continuous asynchronous I/O block 1808, an application block 1809, and an intersections block 1810. The continuous asynchronous I/O block 1808 is connected to the application block 1809. The application block 1809 is connected to the compute block 1802, the culling block 1803, and the intersections block 1810. The intersections block 1810 is connected to the state sorting and state compiling block 1804. The application block 1809 outputs objects 1811 to the compute block 1802, a scene graph 1812 to the culling block 1803, and a scene graph 1813 to the intersections block 1810.

1800

1

1890

HARDWARE

1875

GAP Microcode  
PSX2  
OpenGL

Texture  
Management

DRAW  
Image  
Geometry  
Multi-pass

State sorting &  
state compiling  
(Multi-pass support)

Output:  
GAP Low-Level  
Display List

User Block:

• xxx  
• xxx  
• xxx  
• xxx

Compute:

• LOD  
• Progressive Meshes  
• Texture Processing  
• ....

Culling

Intersections

Output:  
Objects  
1811

Output:  
Scene graph  
1812

Output:  
Scene graph  
1813

Continuous  
asynchronous  
I/O

Application

1805

FIG. 18

1900

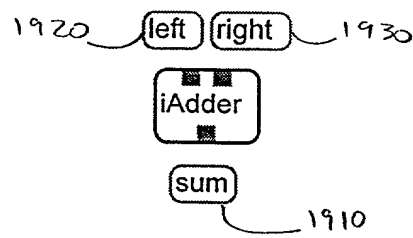
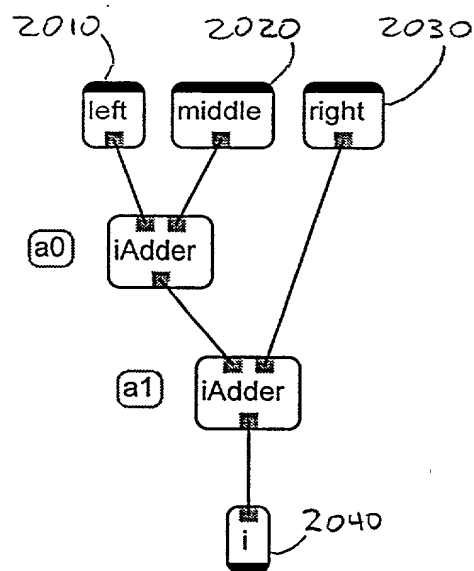


FIG. 19



2000  
↓

FIG. 20

2100

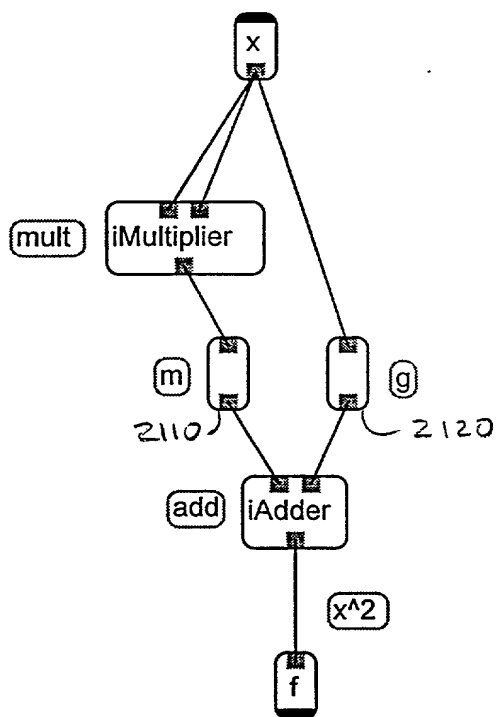


FIG. 21

FIG. 22 is a block diagram of a system 2200. The system 2200 includes a memory module 2210, a processor module 2220, and an output module 2230. The memory module 2210 is connected to the processor module 2220, which is connected to the output module 2230. The processor module 2220 includes a central processing unit (CPU) and a system bus. The memory module 2210 includes a memory controller and a memory array. The output module 2230 includes an output controller and an output device.

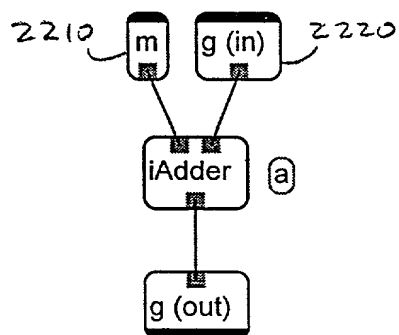


FIG. 22

2300

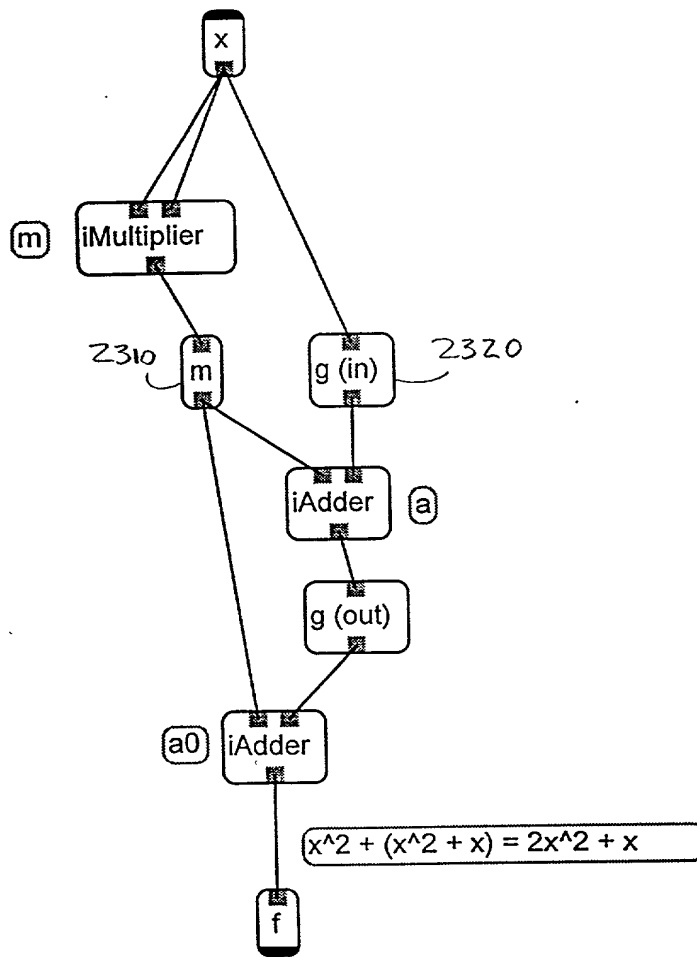


FIG. 23